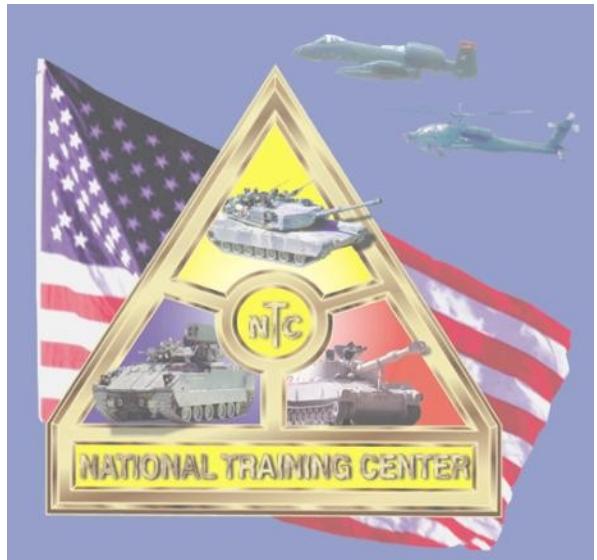




# 12 CTS/DOC

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## RAVEN WEATHER OC/T INBRIEF



Monday, October 22, 2018

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# Overview

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## Mission

**Prepare and integrate Battlefield Weather Airmen into the Army's planning and operations.**



*Primary role always remains to collect and exploit weather intelligence in support of Army plans and operations. The additional training is to prepare personnel for operating in hostile, austere environments as an asset for units assigned direct support by Air Force Weather units.*

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# Joint Air Force & Army Training

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**JRTC/NTC: ACC/A3W and USAF/A3O-W prioritize JRTC/NTC ahead of airfield wx support**

- IMCOM concerns...Army warfighter advocacy appreciated
- Garrison-airfield backfill support available (AF funds)

**Desire: Include wx in JRTC/NTC “grade”**

- How well did BCT staff use wx in the operation?  
(e.g. test application of FM 2-50.5)
- How well did SWO integrate with the staff?
- How effectively did BCT and SWO leverage theater forecast unit (i.e. operational weather squadron)?

**(Army) NIPR or SIPR comm for SWO in the box a must**

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# National Training Center

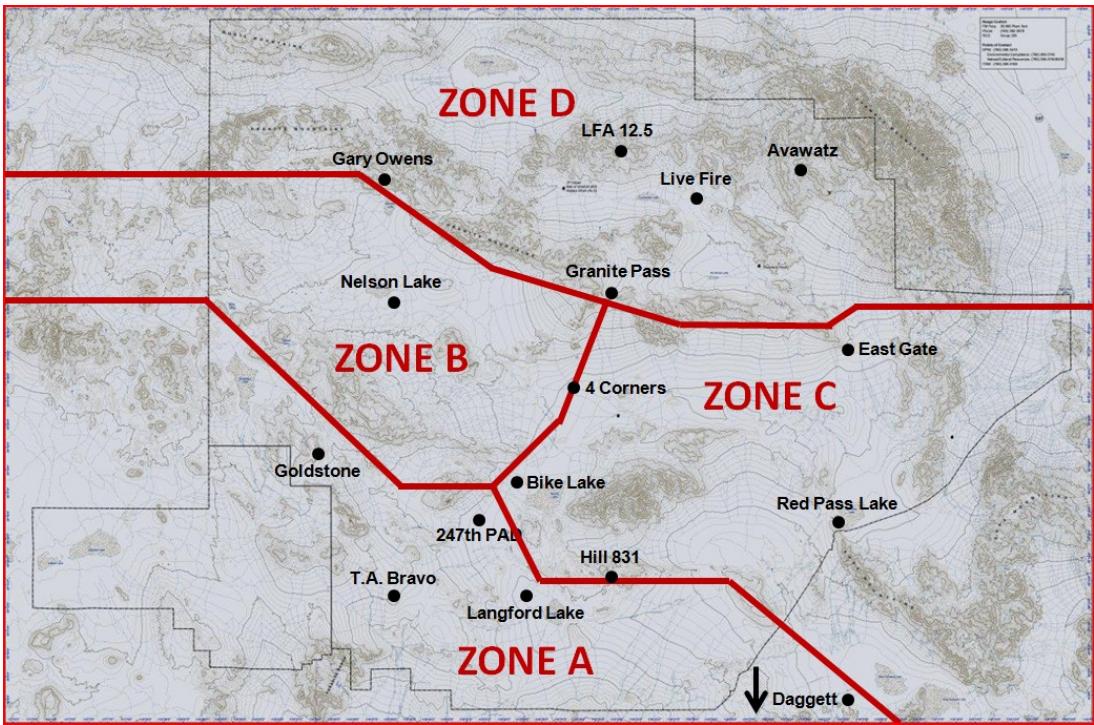
## NTC

- > 1K Square Miles  
(The size of Rhode Island)
- Challenging MEF
  - Topography
  - Data sparse
  - Unreliable

**HANDAR**

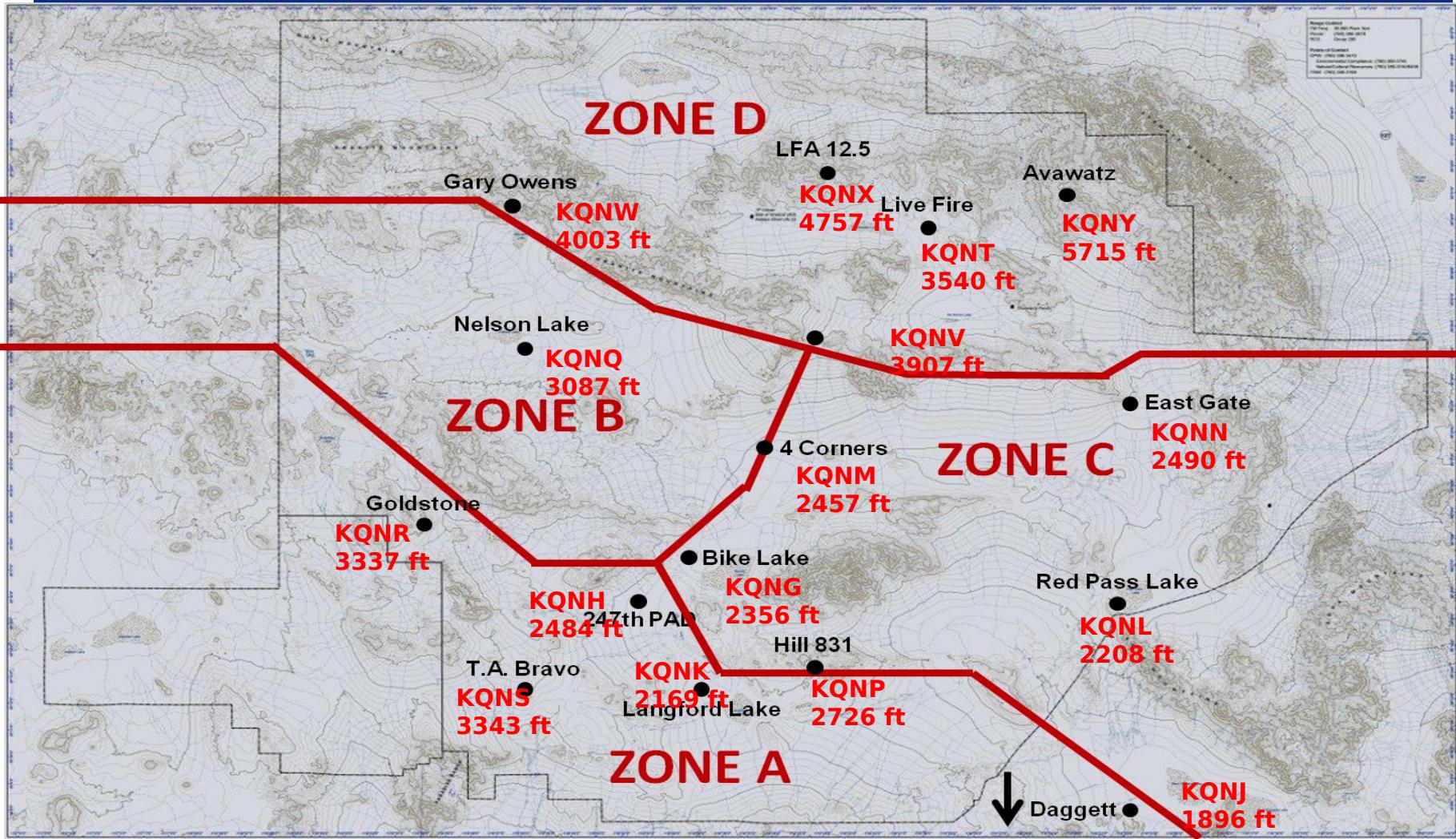


## WWA Zone MAP





# National Training Center





# Climatology

SOURCE NO.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
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## 1. TEMPERATURE ( F )

EXTREME MAX	1	74	86	91	96	107	113	113	114	107	102	86	74	114
MEAN DAILY MAX	1	59	64	72	77	86	95	100	100	92	82	68	58	79
MEAN	1	47	52	59	64	73	81	87	87	78	68	55	47	66
MEAN DAILY MIN	1	36	41	46	51	60	67	73	73	64	53	42	35	53
EXTREME MIN	1	11	18	30	34	38	46	54	56	44	31	14	11	11
# DAYS GE 90	1	0	0	#	2	12	23	29	29	19	6	0	0	119
# DAYS LE 32	1	12	5	#	0	0	0	0	0	0	#	4	12	34
# DAYS LE 0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

## 2. PRECIPITATION (INCHES)

MAXIMUM	2	2.5	2.5	1.9	1.8	0.5	1.2	2.1	3.2	3.4	1.0	1.7	2.1	9.3
MEAN	2	0.6	0.5	0.4	0.2	0.1	0.1	0.4	0.4	0.4	0.1	0.3	0.4	3.9
MINIMUM	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
MAX 24 HR	*	*	*	*	*	*	*	*	*	*	*	*	*	*
# DAYS GE .004	*	*	*	*	*	*	*	*	*	*	*	*	*	*
# DAYS GE .5	*	*	*	*	*	*	*	*	*	*	*	*	*	*

## 3. SNOWFALL (INCHES)

MEAN	1	*	*	*	*	0	0	0	0	0	*	*	*
MAXIMUM	1	*	*	*	*	0	0	0	0	0	*	*	*
MAX 24 HR	1	*	*	*	*	0	0	0	0	0	*	*	*
# DAYS GE 0.1	1	*	*	*	*	0	0	0	0	0	*	*	*
# DAYS GE 1.5	1	*	*	*	*	0	0	0	0	0	*	*	*



# WWA Criteria

Weather Advisories			
Criteria	Forecast/Observed	Desired Lead Time	Issued By
Winds	$\geq 30$ kts but $< 45$ kts	60 minutes	OWS
Hail	Hail $< \frac{3}{4}$ inch	30 minutes	OWS
Icing	Below 10,000ft (intensity $>$ light)	60 minutes	OWS
Surface Winds	Gust spread (peak to lull) $\geq 15$ kts	Observed	WF
Surface Winds	Gust spread (peak to lull) $\geq 10$ kts but $< 15$ kts	Observed	WF
Turbulence	Moderate Turbulence below 10,000ft (Category I aircraft)	Observed	WF
Weather Watches			
Watch Type	Criteria	Desired Lead Time	
Tornado	Tornado or Funnel Cloud	N/A	OWS
Damaging Winds	Winds $\geq 45$ kts	N/A	OWS
Hail	$\geq \frac{3}{4}$ inch	N/A	OWS
Heavy Rain	$\geq 0.5$ " in 12 hrs	N/A	OWS
Lightning (Barstow-Daggett only)	Within 5 nm	30 minutes	OWS
**Lightning (NTC only)	Potential exists	30 minutes	OWS
Weather Warnings			
Warning Type	Criteria	Desired Lead Time	Issued By
**Tornado	Tornado expected; Tornado expected within NTC	30 minutes	OWS
**Strong Winds	Winds $\geq 45$ kts	60 minutes	OWS
Hail	$\geq \frac{3}{4}$ inch	60 minutes	OWS
**Freezing Precipitation	Any	30 minutes	OWS
Heavy Snow	$\geq 2$ " in 12 hrs	120 minutes	OWS
Heavy Rain	$\geq 0.5$ " in 12 hrs	120 minutes	OWS
Lightning	Within 5 nm; Within NTC	Observed	OWS
**Turbulence	Below 10,000ft moderate occasional severe or greater (Cat I aircraft)	60 minutes	OWS
**Turbulence	Below 10,000ft moderate occasional severe or greater (Cat II aircraft)	60 minutes	OWS



# DEPLOYMENT TIMELINE

This is a rough guideline. Every rotation is slightly different.

- **Pre-deployment preparation/coordination at Home Station**
- **Arrival to NTC with Army customer**
- **RSOI 1-5 (Mon-Fri)** (Reception, Staging, Onward-Movement, and Integration):
  - Move from Ruba (Dust Bowl) to FOB, Equipment Setup, OC/T in-brief
  - **RSOI 1: Plan to have the entire team meet with the OC/Ts for the in brief**
  - **RSOI 1-4: Receive equipment, support customer as they prepare to “deploy”**
  - **RSOI 5: “Deploy” to the training area**
- **TD1-14: Training, Weather OC/T Review, AAR with the weather OC/T**
- **TD 14 (Friday): ENDEX will be called sometime on TD 14.**
- **~~BRD 1-5 Return to Home Station with Army customer.~~**  
(Usually not until Mon-Tue)



# DEPLOYMENT TIMELINE



<b>N</b> <b>O</b> <b>V</b>	<b>DA</b> <b>KU</b>	<b>13-02</b>  <b>1/4 ID ABCT</b> <b>FT CARSON</b>	<b>SOF: NONE</b> <b>AVN: 1ID TF Nightmare 3-1 AHB</b> <b>ENG: 387TH EN CO</b> <b>LOG: 68th CSSB</b> <b>MP: 202 MP Co</b>
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# Weather Support Forces Operational Organization



## Global Ops/ Management

“... where we leverage the technology and manage the infrastructure”

## Fine-Scale Theater Products

“... our hubs of theater weather knowledge”

## Mission-Scale Application

“... a lean, experienced team that knows the mission”

- 19 EWXS Commander directs Air Force weather forces operations to support Army operations in Afghanistan
- Advises CENTCOM Joint & Sr. METOC officers on weather operations strategy

- Weather Officer & 2-4 man team from 19 EWXS supports Division CC & Staff
- Supervises Wx teams attached to directly support subordinate units

- Weather Officer & 2-4 man team from 19 EWXS supports CAB/BCT CC & Staff
- Taylors Wx forecasts to specific missions for planning & collects current Wx conditions to monitor and assess risk for operations execution decision



# *Weather Support Forces Operational Organization*

Brigades require long range planning weather and weather for planning and executing combat operations.

**Combat Aviation Brigades** - these need the most weather support. A typical weather station is set up to support the CAB where Mission Execution Forecasts and 175-1 weather briefings are used.

**Unmanned Aerial Vehicles** - each BCT has a UAV unit which required flight weather briefings. Additionally long range planning weather is used to optimize UAV use.





# OC/T Role

- **Bicycle Lake AAF (KBYS) Weather Flight**
  - **Hours of Operation: 24/7**
  - **Considered the NTC Division SWO**
  - **MEF Issuance: (PST) 07L/15Z, 15L/23Z and 23L/07Z**  
**(-1 Hour Zulu time during Daylight Savings Time)**
- **OC/Ts Will:**
  - **Ensure EXROE are followed**
  - **Observe the BWT under field conditions**
  - **Coach and evaluate the BWT**
  - **Provide a written AAR to BWT prior to departure**





# ***OC/T Role***

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- **OC/Ts Are:**
  - **Safety Observers**
  - **Exercise Coordinators**
  - **Mentors/Coachers**
- **OC/Ts Are Not:**
  - **Friends for the players (keep it professional)**
  - **A link to the outside world (PX/Burger King)**
  - **Necessarily instructor qualified**
    - **But we will recommended improvements to operations/techniques**



# 25 OWS Role

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- **The 25th Operational Weather Squadron will issue a Military Operations Area Forecast (MOAF) three times a day 08L/15Z, 16L/23Z and 00L/07Z.**
- **The 25 OWS will METCON with BLAAF Weather Flight AND the deployed BWT prior to issuing the MOAF.**
  - **METCON with the 250WS and BLAAF CWT takes place over DCO (Defense Connect Online)**
- **The 25 OWS will issue and disseminate all WWA Criteria via JET. WWA's are displayed on the 25 OWS web page, <https://ows.dm.af.mil>.**



# ***OWS - WF***

## ***~~Interaction~~***

- **OWSs conduct analysis and forecast processes that turn data into information (characterizations)**
- **WFs tailor and integrate characterizations into military decision making processes**
- **WFs provide eyes forward presence for the OWS installation forecaster: relay weather info not found in coded bulletins**
- **WF translates characterization into mission impact and offers mitigation options to military decision makers**
  - **WF reliant on accurate characterizations**



# ***OWS - WF***

# ***~~Interaction~~***

- **Situational Awareness and Collaboration is key to effective OWS - WF relationship**
- **Tools:**

Identify the problem(s) of the day:		Rules of Thumb	Forecast Reference Notebook	KDOV Checklist	
Forecast Challenge:	35kts/25kts	Advisory/Warning Criteria expected: 35kts/25kts			
MAX / MIN Temp Expected:		OB Trend	RAW TAF		
MAX Temp: 20		MIN Temp: 07			
Potential Mission Limitations					
	Thunderstorms	Non-Conv Wind	Freezing Precip	Heavy Precip	Visibility/Ceiling
24-48 Hr	No	>= 25 < 35kts	No	No	> 3000 ft
48-72 Hr	No	MAX / MIN Temp Expected: OB Trend RAW TAF			
72-96 Hr	No	MAX Temp: 00 MIN Temp: -07			



## **Analysis and Discussion Products**

**Collaboration Tools imbedded in the 1 WXG Smart Worksheet allow WF to review forecast reasoning and comment to Shift Supervisor and Installation Forecaster before TAF is disseminated**

## 96-hr Threat Assessments

Potential Mission Limitations		Long Range Forecast Discussion Impacts for KRDR
Date/Time	One or more of the following threat criteria have been identified for your base:	
	Severe Winds >= 50 Kts, Severe Hall >= 3/4 in., Heavy Precip (Snow/Rain) 2" in 12 hrs, Freezing Precip, or Blizzard Conditions.	
24-48 Hr	Heavy snow - 2-4 inches - northern MN/WI/MI Freezing precip - Northern KV/Southern OH Non-Convective Warning Winds - 35-45 kt winds - Dakotas/Northern NE/IA/Northern WI	
48-72 Hr	Heavy snow - 3-5 inches - Northern High Plains, MN Freezing precip - NE, IA, Central IL, Central IN Non-Convective Warning Winds - 35-45 kt winds - OH River Valley, Central Appalachians	
72-96 Hr	Heavy snow - 2-6 inches - Dakotas, MN, IA, NE, WI, MI Lake effect snow - 2-3 inches - NY/PA	
96-120 Hr		N/A

Web-based TAF worksheet

Draft TAF: [Printable KTCM Draft TAF](#) **Web-base**

**Shift Supervisor Comments:**  
WITH THE CURRENT NO SEAS LOW FAR OFF THE COAST OF WA, HIGH CEILINGS ARE PRESENT AND THE ATMOSPHERE WILL BECOME MUCH MORE STABILIZED AS WE MOVE INTO THE AOA. GRADIENT WILL REMAIN FAIRLY LOOSE AND AS THE NO PAC LOW MOVES IN, LOWER CEILINGS WILL PRESENT 8400FT AND PISTON WINDS 10-15KCS. CLOUDS WILL 10000FT AND 6000FT.

WHITE EIGHTY FRESH. TELM 3 AND TICING GOOD. TAI LOOKS GOOD.

**Final TAF:** [Printable KTCM TAF WS](#)  
KTCM TAF 2721/2821 1900KT 9999 BKN150 QNH3015INS  
BECMS 2802/2803 VRB04KT 9999 SCT050 SCT120 QNH3010INS  
BECMS 2814/2815 1900KT 9999 -R BR025 QVC050 620704 QNH2995INS T12/2800Z T04/2808Z

TAF Data for Metrics:									
	4 hr	8 hr	12 hr	24 hr		4 hr	8 hr	12 hr	24 hr
Wind Spd (kts)	2	1	3	9	Wind Dir (°)	210	210	200	200
VIS (CAT)	D	D	D	D	C/I (CAT)	D	D	D	D
ALSTG (ins)	3013	3007	3002	2996	TEMP (°C)	10	6	4	8

CWF Entries	Significant Events
CWF Forecaster Inputs:	<input type="button" value="Save Five Filters"/>
<p>From 01/27/11 19:59Z: I WAS THINKING PRECIP WOULD START BY 15Z JUST LOOKING AT THE MODEL UPDATES. SUGGEST TO LOWER ALTIMETERS WITH THE TREND FORECAST TO DROP. SHOULD BE MORE SOUTHEASTERLY LIKE 170-190.</p>	
<p>No Previous Amendments</p>	



# ***OWS - WF***

## ~~***Interaction***~~

- **OWS provides meteorological services to over 200 flying units w/o indigenous WFs**
  - **Total Force in CONUS, Alaska, Hawaii**
  - **Operating locations “forward”**
- **OWS provides:**
  - **Special Weather Statements, Watches and Warnings**
  - **Flight Weather Briefings**
  - **Situational Awareness for Supervisors of Flying**
  - **Weather Products for Emergency Mgmt (CBRNE Ops, CDM, EDM, advice...)**
  - **Coordinates and provides exercise support**



# **BLAAF Role**

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**The BLAAF Weather Flight (Weather Team permanently assigned to Ft. Irwin) will:**

- Issues 5-Day Weather Planning Outlooks/Forecast once a day (NLT 1600L)**  
**(The 5-Day Outlook is posted on the Fort Irwin/NTC webpage)**
- Issues Mission Execution Forecasts (MEFs) 3 times daily**
- Provide local area (MEF) or 175-1 pilot weather briefs to NTC Flight Detachment and**  
**aviation assets assigned to the NTC/KDAG;**
- Provide Division-level support to NTC personnel in the form of; CG updates, planning**  
**weather to all NTC support units, and operational weather updates**
- Relays current and forecast weather data (as required) to Warrior TOC via phone and all**  
**12 CTS Ravens in the field via RCS Radio.**
- Collaborate on all weather products via DCO (defense connect online) with the 25 CWS**

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# ***Deploying BWT Rules***

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## **DOS**

- **Do keep an open mind**
- **Do ask questions**
- **Do put your equipment through its paces (its better to learn its limitations in training)**

## **DO NOTS**

- **Do not put your hands on any of the role players (i.e. don't tackle someone who is "attacking" your FOB.**
- **Do not move to a new location without letting the weather OC/T know first**
- **Do not mess with the wild life (snakes, spiders, scorpions, donkeys, tortoises, etc.)**

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# Deploying BWT Role

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- The deploying BWT is responsible for all products in conjunction with their BWT-Customer Memorandum of Agreement (MOA) for their local Area of Operations (AO).
- The deploying BWT will METCON with the 25 OWS AND the BLAAF CWT to ensure their MEF and other forecasts are horizontally consistent with 25 OWS' MOAF and WWA criteria.
- The deploying BWT will pre-coordinate any customer unique WWA criteria that is not covered by NTC criteria with the 25 OWS. The 25 OWS issues ALL WWA's!
- Request a KQ identifier prior to deployment through AFWA.
- Submit a SAR NLT 30 days prior to arrival to the 25 OWS. Any customer unique WWA criteria needs to be requested in the SAR!
- Contact the NTC Weather OC/T team upon arrival at DSN 470-4363 (or



# Army Responsibilities

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**MTOE**

**Ammunition**

**CBRNE equipment and training**

**Vehicle maintenance, fuel, lubricants, parts**

**Commo links**

**Commo equip (computers, DCGS, phones, radios)**

**Office space and office supplies**

**Tactical wx equipment storage**

**GOVs**

**Army skills training (common soldier skills, airborne, etc)**

**TDY funds for Army support/Army training**

**Details in AR 115-10**

**Conclusion: Army-support is #1 priority for ACC/A3W for weather funding and manpower. AF/A3O-W backing. G-2 involvement needed to guarantee success.**

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# *Deploying BWT*





# *AAR Notes*

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- MILES GEAR!
- COMSEC
- PROFESSIONALISM
- COMMUNICATION
- INTEGRATION

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